

REMARKS/ARGUMENTS

Claims 35-81 are active in this application and are supported by Claims 1-34 and the specification as originally filed. Support for Claim 81 is found on page 4 of the application. No new matter is added.

Claims 56-79 are directed to non-elected subject matter and have been withdrawn by the Examiner. However, in accordance with MPEP §821.04, Applicants request rejoinder of the non-elected process claims upon finding that the elected polynucleotide claims are allowable.

The rejections of Claims 1-3, 5 and 8 under 35 U.S.C. § 112, first paragraph (“written description” and “enablement”) is obviated by the cancellation of the claims.

With respect to Claims 45, 50, and 51, the specification adequately describes and enables the isolated polynucleotides claimed.

Claim 45:

Applicants also direct the Examiner’s attention to Example 9 of the Synopsis of Application of Written Description Guidelines which analyzes a situation where a claim covers a genus of nucleotide sequences that hybridize under stringent conditions to a disclosed sequence having a particular activity. In these guidelines, the Patent Office has concluded that such a claim is adequately described within the meaning of 35 U.S.C. § 112, first paragraph. In particular, note the Patent Office’s rationale:

The claim is drawn to a genus of nucleic acids all of which must hybridize with SEQ ID NO:1 and must encode a protein with a specific activity.

The search of the prior art indicates that SEQ ID NO:1 is novel and unobvious.

There is a single species disclosed (a molecular consisting of SEQ ID NO:1) that is within the scope of the claimed genus.

There is actual reduction to practice of the disclosed species.

Now turning to the genus analysis, a person of skill in the art would not expect substantial variation among species encompassed within the scope of the claims because the highly stringent hybridization conditions set forth in the claim yield structurally similar DNAs. Thus, a representative number of species is disclosed, since highly stringent hybridization conditions in combination with the coding function of DNA and the level of skill and knowledge in the art are adequate to determine that applicant was in possession of the claimed invention.

Conclusion: The claimed invention is adequately described.

Thus, applying the Office's guidelines to the present application confirms that Claim 45 is adequately described.

Claims 50 and 51, 90% or 95 % identical to SEQ ID NO:1:

When one looks at an amino acid sequence and reverse translates the amino acid sequence to a polynucleotide sequence, variation of the polynucleotide sequence results due to the well-known biological phenomenon of genetic degeneration. Such variation can result in two polynucleotide sequences having some variability and can be different, i.e., 90% identical. For illustration, Applicants a 10 amino acid sequence was reverse translated into two DNA sequences, variability resulting in genetic degeneration. The two resultant polynucleotides were then compared.

| | |
|------------|---|
| Amino Acid | Met Thr Thr Thr Val Ala Ser Val Leu Ser |
| DNA #1 | ATGACTACTACTGTTGCTTCTGTTCTTCT : 30 |
| DNA #2 | ATGACCACAAACCGTTGCATCAGTACTATCC : 30 |
| Consensus | ATGAC AC AC GTTGC TC GT CT TC |

The consensus of the alignment is shown below, and the resultant percent identity is about 71%.

Based on this alone, it is clear that the specification enables and describes the representative genus of polynucleotides that encode proteins with at least 90% identity to SEQ ID NO:1.

Further, the specific structural/functional features of these claimed polynucleotides are set forth in each claim, i.e., SEQ ID NO:1 and homocysteine methyltransferase activity. Thus, Claims 45, 50, and 51 are also enabled by the specification.

With respect to Claim 80, the specification describes fragments of SEQ ID NO:1 of at least 100 nucleotides on page 4 line 15-18.

Accordingly, withdrawal of this ground of rejection is requested.

The rejection of Claim 9 under 35 U.S.C. § 112, first paragraph is respectfully traversed.

Claim 9 has been cancelled in favor of Claim 79. DSM 14354 has been deposited under the terms of the Budapest Treaty in the depository DSMZ, Braunschweig, Germany as shown on the attached Deposit Receipt. Confirmation of the deposit is also provided in the specification on page 19,, lines 8-13. Further, Applicants confirm that in accordance with the conditions of the deposit under the terms of the Budapest Treaty, all restrictions on the public availability will be irrevocably removed upon granting of the patent.

Withdrawal of the rejection is requested.

The rejection of Claims 1-3, 5 and 8 under 35 U.S.C. § 112, second paragraph is obviated by amendment.

The rejection of Claims 1 and 2 under 35 U.S.C. § 102(b) over Eiglmeier et al is obviated by the cancellation of the claims.

Eiglmeier describes 55 nucleotides overlapping with SEQ ID NO:1. Eiglmeier does not describe SEQ ID NO:1, polynucleotides which hybridize to SEQ ID NO:1 under stringent conditions and encode a protein with homocysteine methyltransferase activity, polynucleotides that are at 90% or 90% identical to SEQ ID NO:1 and encode a protein with the activity; or polynucleotides consisting of at least 100 nucleotides of SEQ ID NO:1.

Accordingly, withdrawal of this rejection is requested.

The rejection of Claim 5 under 35 U.S.C. § 102(b) over Strausberg is respectfully traversed.

Strausberg describes a polynucleotide sequence that is 58.4% similar to SEQ ID NO:1. However, Strausberg does not describe SEQ ID NO:1, polynucleotides which hybridize to SEQ ID NO:1 under stringent conditions and encode a protein with homocysteine methyltransferase activity, polynucleotides that are at 90% or 90% identical to SEQ ID NO:1 and encode a protein with the activity; or polynucleotides consisting of at least 100 nucleotides of SEQ ID NO:1.

Accordingly, withdrawal of this rejection is requested.

Applicants request allowance of this application.

Respectfully submitted,

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BUDAPEST TREATY ON THE INTERNATIONAL
RECOGNITION OF THE DEPOSIT OF MICROORGANISMS
FOR THE PURPOSES OF PATENT PROCEDURE



INTERNATIONAL FORM

Degussa AG
Kantstr. 2
33790 Halle/Künsebeck

RECEIPT IN THE CASE OF AN ORIGINAL DEPOSIT
issued pursuant to Rule 7.1 by the
INTERNATIONAL DEPOSITORY AUTHORITY
identified at the bottom of this page

I. IDENTIFICATION OF THE MICROORGANISM

Identification reference given by the DEPOSITOR:

DH5αmcr/pCREmeth

Accession number given by the
INTERNATIONAL DEPOSITORY AUTHORITY:

DSM 14354

II. SCIENTIFIC DESCRIPTION AND/OR PROPOSED TAXONOMIC DESIGNATION

The microorganism identified under I. above was accompanied by:

- (X) a scientific description
(X) a proposed taxonomic designation

(Mark with a cross where applicable).

III. RECEIPT AND ACCEPTANCE

This International Depository Authority accepts the microorganism identified under I. above, which was received by it on 2001-06-14
(Date of the original deposit)¹.

IV. RECEIPT OF REQUEST FOR CONVERSION

The microorganism identified under I above was received by this International Depository Authority on (date of original deposit)
and a request to convert the original deposit to a deposit under the Budapest Treaty was received by it on (date of receipt of request
for conversion).

V. INTERNATIONAL DEPOSITORY AUTHORITY

Name: DSMZ-DEUTSCHE SAMMLUNG VON
MIKROORGANISMEN UND ZELLKULTUREN GmbH

Address: Mascheroder Weg 1b
D-38124 Braunschweig

Signature(s) of person(s) having the power to represent the
International Depository Authority or of authorized official(s):

Date: 2001-06-15

¹ Where Rule 6.4 (d) applies, such date is the date on which the status of international depositary authority was acquired.

BUDAPEST TREATY ON THE INTERNATIONAL
RECOGNITION OF THE DEPOSIT OF MICROORGANISMS
FOR THE PURPOSES OF PATENT PROCEDURE

INTERNATIONAL FORM

Degussa AG
Kantstr. 2
33790 Halle/Künsebeck



VIABILITY STATEMENT
issued pursuant to Rule 10.2 by the
INTERNATIONAL DEPOSITORY AUTHORITY
identified at the bottom of this page

| | | |
|---|--|---|
| I. DEPOSITOR | | II. IDENTIFICATION OF THE MICROORGANISM |
| Name: Degussa AG Kantstr. 2 Address: 33790 Halle/Künsebeck | | Accession number given by the INTERNATIONAL DEPOSITORY AUTHORITY: DSM 14354 Date of the deposit or the transfer: 2001-06-14 |
| III. VIABILITY STATEMENT | | |
| The viability of the microorganism identified under II above was tested on 2001-06-14 ² . On that date, the said microorganism was <input checked="" type="checkbox"/> ³ viable <input type="checkbox"/> ³ no longer viable | | |
| IV. CONDITIONS UNDER WHICH THE VIABILITY TEST HAS BEEN PERFORMED⁴ | | |
| V. INTERNATIONAL DEPOSITORY AUTHORITY | | |
| Name: DSMZ-DEUTSCHE SAMMLUNG VON MIKROORGANISMEN UND ZELLKULTUREN GmbH Address: Mascheroder Weg 1b D-38124 Braunschweig | | Signature(s) of person(s) having the power to represent the International Depository Authority or of authorized official(s): <i>V. Weis</i> Date: 2001-06-15 |

¹ Indicate the date of original deposit or, where a new deposit or a transfer has been made, the most recent relevant date (date of the new deposit or date of the transfer).

² In the cases referred to in Rule 10.2(a) (ii) and (iii), refer to the most recent viability test.

³ Mark with a cross the applicable box.

⁴ Fill in if the information has been requested and if the results of the test were negative.